

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A disk array apparatus comprising:

a cache memory that temporarily stores data to be read from or written to first and second disks; and

a control unit which ~~associates data associated with logical addresses~~ generates a check information on the basis of said data, transforms said data and said check information into a physical domain of said cache memory so as to associate said data and said check information with physical addresses, ~~writes the data associated with physical address in the cache memory and processes preferentially for writing the data~~ and check information associated with the physical addresses in the cache memory to the first and second disks;

~~wherein said disks include a first disk and a second disk; and wherein said control unit processes~~ substantially simultaneously said data and said check information to said first data to be read from or written to said first disk with a timing determined in relation to reading or writing of second data to said and second ~~[[disk]]~~ disks.

2. (original) The disk array apparatus as claimed in claim 1, wherein said control unit releases the data associated with the physical addresses in the cache memory from a state in which the data is associated with the physical addresses after confirming that the writing is completed.

3. (original) The disk array apparatus as claimed in claim 1, wherein said control unit comprises a plurality of control units which are physically independent of one another and wherein if a failure occurs in one control unit, another control unit takes over the preferential processing for the data associated with a physical address in the cache memory.

4. (original) The disk array apparatus as claimed in claim 1, wherein said cache memory is a nonvolatile memory.

5. (original) The disk array apparatus as claimed in claim 2, wherein said cache memory is a nonvolatile memory.

6. (original) The disk array apparatus as claimed in claim 3, wherein said cache memory is a nonvolatile memory.

7. (currently amended) A data writing method in a disk array apparatus for reading and writing data from and to a plurality of disks in accordance with a command issued from an upper-level host computer, the method comprising:

before executing a processing for writing data to the plurality of disks, ~~associating~~ storing data associated with logical addresses in a logical domain of ~~with physical addresses~~  
~~to be temporarily stored in~~ a cache memory;

generating a check information on the basis of said data;

associating transforming said data and said check information to a physical domain of said cache memory so as to associate said data and said check information associated with logical addresses with physical addresses; and

substantially simultaneously writing the data and said check information from the physical domain of the cache memory to first and second ones of the plurality of disks to maintain data coherency associated with physical address in the cache memory;  
and

~~processing preferentially for writing the data associated with the physical addresses in the cache memory to the disks;~~

~~wherein first data associated with the physical addresses in the cache memory is read to or written from a first of said plurality of disks with a timing determined in relation to reading or writing second data associated with the physical addresses in the cache memory to or from a second of said plurality of disks.~~

8. (previously presented) The data writing method as claimed in claim 7, further comprising:

releasing the data associated with the physical addresses in the cache memory from a state in which the data is

associated with the physical addresses after confirming that the writing is completed.

9. (original) The data writing method as claimed in claim 7, wherein said control unit comprises a plurality of control units which are physically independent of one another and wherein, if a failure occurs in one control unit, another control unit takes over the preference processing for the data associated with a physical address in the cache memory.

10. (original) The data writing method as claimed in claim 8, wherein said control unit comprises a plurality of control units which are physically independent of one another and wherein, if a failure occurs in one control unit, another control unit takes over the preference processing for the data associated with a physical address in the cache memory.

11. (currently amended) A disk array apparatus comprising:

a cache memory that temporarily stores data to be read from or written to a plurality of disks; and

a control unit which associates data associated with logical addresses with physical addresses, writes the data associated with physical address in the cache memory and processes preferentially for writing the data associated with the physical addresses in the cache memory to the disks;

wherein the data associated with the physical addresses comprises new data to be written at least to a first one of said

plurality of disks [[disk]], and new check information to be substantially simultaneously written at least to a second one of said plurality of disks [[disk]] that is different than said first one of said plurality of disks [[disk]].

12. (previously presented) The disk array apparatus as claimed in claim 11, wherein said control unit releases the data associated with the physical addresses in the cache memory from a state in which the data is associated with the physical addresses after confirming that the writing is completed.

13. (previously presented) The disk array apparatus as claimed in claim 11, wherein said control unit comprises a plurality of control units which are physically independent of one another and wherein if a failure occurs in one control unit, another control unit takes over the preferential processing for the data associated with a physical address in the cache memory.

14. (previously presented) The disk array apparatus as claimed in claim 11, wherein said cache memory is a nonvolatile memory.

15. (previously presented) The disk array apparatus as claimed in claim 12, wherein said cache memory is a nonvolatile memory.

16. (previously presented) The disk array apparatus as claimed in claim 13, wherein said cache memory is a nonvolatile memory.

AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes changes to Figures 8a, 8b and 8c. This sheet, which includes Figures 8a, 8b and 8c, replaces the original sheet including Figures 8a, 8b, and 8c.

Figures 8a, 8b, and 8c have been labeled as "PRIOR ART".

Attachment: 1 Replacement Sheet